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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/741,860	12/22/2000	David Carlton Moore	088305/0129	8558

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EXAMINER

BROSS, EDWARD J

ART UNIT	PAPER NUMBER
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2126

DATE MAILED: 06/04/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/741,860

Applicant(s)

MOORE ET AL.

Examiner

Edward Bross

Art Unit

2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. Claims 1-24 are pending in this application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims language is not clear for the following reason:

A. Claim 24 claims a computer program product; however, it is dependent on claim 20 which claims an interface.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2126

5. Claims 1-12, 15-18, 20, 21, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mehra et al. (“Designing a flexible services-based architecture for Internet Applications”) in view of Singh (“Unifying Heterogeneous Information Models”).

6. As to claim 1, Mehra discloses an interface for interfacing between front-end data processing systems and back- end data processing systems (p. 31, figure in section 3, Client Layer and Database/Existing Applications), the interface comprising an engine (p. 31, figure in section 3, Context Processor), a node layer comprising at least one node (p. 31, figure in section 3, Business Logic Layer), and a utility layer comprising at least one utility (p. 31, figure in section 3, Interface), and in which:

the engine comprises means for receiving a message containing a request from a front-end system for a transaction to be performed by a back-end system (p. 32, section 3.2.1),

each node represents business logic interfaces to a back-end system (p. 32, section 3.3.1),

each node exposes business logic capabilities to the engine (p. 32, the interface of the Business Controller Object section 3.3.2);

each utility is coupled as a proxy to a back-end system, comprises means for receiving a transaction request from a node, for converting said request to a back-end system request, for receiving a response from the back-end system, and for routing a response to the requesting node (p. 32 sections 3.4.1 and 3.4.2),

each node comprises means for routing a received response to the engine (p. 32, section 3.2.1 “The business logic layer...returns an XML output data stream”); and

the engine comprises means for routing a response to the requesting front-end system (p. 32, section 3.2.1 “The style sheet rendering engine merges the XML data stream with the appropriate XSL template file to render HTML output to the browser.”).

7. Mehra does not disclose the engine comprises means for interpreting said message to select a relevant node for interfacing.

8. Singh discloses an engine comprising means for interpreting said message to select a relevant node for interfacing (Tesserae Integration Engine p. 41, col. 1, “In processing queries, we use this metainformation to decompose complex requests into simple requests, route these requests to appropriate sources, and integrate the resulting answers.”).

9. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the Tesserae Integration Engine of Singh in the system of Mehra in order to achieve Mehra’s stated goals of being “scalable, flexible, adaptable, and extensible” and “leverage existing assets” (p. 31 col. 2) by allowing it to adapt to multiple back-end data sources.

10. As to claims 2, 20 and 24, Singh discloses that the engine comprises means for dynamically maintaining the process map according to the exposed node business logic capabilities (p. 41, cols. 1-2, Machine-Processable Metadata, first paragraph).

11. As to claim 3, Singh discloses that the process map comprises a script file (p. 41, col. 2, second paragraph).

Art Unit: 2126

12. As to claim 4, Singh discloses that the process map comprises script messages, each message having a map associating incoming parameter names with standardized names (p. 41, figure 5).

13. As to claim 5, Singh discloses that each message of the process map specifies an associated node, a list of the parameters the node requires, and values which it returns for a type of incoming message (p. 43, col. 1 $F_1 - F_6$).

14. As to claim 6, Mehra discloses that the utilities comprise means for interfacing with the node layer according to a uniform interface model (p. 32, section 3.3.2 "...that provide an abstraction layer that encapsulates access...").

15. As to claim 7, Singh discloses that the engine comprises means for calling a plurality of nodes for a transaction request (p. 41, col. 1 "integrate the resulting answers" implies that several nodes can be used in processing a single request).

16. As to claim 8, Singh discloses that the engine comprises means for calling nodes in sequence, and for passing the output from a previous node to a next node (p. 39, col. 2, lines 13-15).

17. As to claims 9 and 10, Mehra and Singh do not disclose that the engine and each node comprise means for using a hashtable mapping keys to values for passing data and control to

Art Unit: 2126

each other or means for using a hashtable for returning a result from a back-end system.

However, hashtables are a data structure that are well known in the art.

18. It would have been obvious to one of ordinary skill in the art at the time of the invention to use hashtable mappings for passing data because of their simplicity, flexibility, and fast ($O(1)$) lookups and updates.

19. As to claim 11, Mehra discloses that the engine comprises means for requesting a return value for a transaction (XML data returned). Mehra and Singh do not explicitly disclose that the engine comprises means for defaulting to not passing a return value if one is not so requested. However, return values for transactions that return no results would implicitly not pass a return value by default.

20. As to claim 12, Mehra discloses that each of the engine and each node comprise an object instantiated from an object-oriented class (p. 32, section 3.3.2).

21. As to claim 15, Mehra discloses that the engine comprises an externally visible engine class (p. 32, section 3.2.2 "Servlet") and a means for instantiating a processor object for instantiating said node objects (p. 21, section 3.3.1 "Business Object Factory"). Mehra does not disclose a loader object for loading the process map, and for determining node objects associated with a received message.

Art Unit: 2126

22. Singh discloses a loader for determining node objects associated with a received message (p. 41, col. 1). Singh does not disclose this loader is an object. However object oriented programming is well known in the art and is used in the system of Mehra.

23. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the loader of Singh as an object to gain the reusability and other development benefits typically associated with object oriented programming.

24. As to claim 16, Mehra discloses that the engine comprises means for instantiating a parser object for parsing a received message (implicit use of a Java XML parser by the servlet p. 32 section 3.2.1). Mehra does not disclose placing extracted data in a hashtable, and for returning the hashtable to the engine object. However, hashtables are a data structure that are well known in the art.

25. It would have been obvious to one of ordinary skill in the art at the time of the invention to use hashtable mappings for passing the extracted data back to the engine because of their simplicity, flexibility, and fast ($O(1)$) lookups and updates.

26. As to claim 17, Singh discloses that the engine comprises a builder object comprising means for automatically updating the process map according to capabilities exposed by node classes (p. 41 cols. 1-2 Machine-Processable Metadata first paragraph).

27. As to claim 18, Singh discloses that each node class comprises a method for returning a string to the engine indicating the node capabilities (p. 43, col. 1 $F_1 - F_6$).

28. As to claim 21, it is rejected for the same reasons as claims 10 and 15 above.

29. As to claim 23, Mehra and Singh do not disclose that the process map is an XML script file. However, the use of XML script files (including eXtensible Stylesheet Language– XSL) is well known in the art and is used by Mehra (p.31, section 3.1.1).

30. It would have been obvious to one of ordinary skill in the art at the time of the invention to use XML script files for the process map in order to take advantage of their readability and existing tools for XML manipulation and parsing

31. Claims 13, 14, 19, 22 rejected under 35 U.S.C. 103(a) as being unpatentable over Mehra and Singh as applied to claims 1 and 20 above, and further in view of Frolund et al. (6,434,555).

32. As to claims 13 and 19, Mehra and Singh disclose that each of the engine and each node comprises means for using a hashtable which maps keys to values for passing data and control to each other, and the engine comprises means for passing a hashtable as a parameter as in claims 9 and 10 above. Mehra and Singh do not disclose an execute method, a commit method, and a rollback method of a node object.

33. Frolund discloses an execute method, a commit method, and a rollback method of a node object (Fig. 3).

Art Unit: 2126

34. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the methods of Frolund with the systems of Mehra and Singh in order to “solve the problem of outcome determination” (Abstract).

35. As to claim 14, Mehra and Singh discloses that the engine comprises means for activating a sequence of nodes for a transaction as in claim 8 above. Mehra and Singh do not disclose each node comprises means for performing a rollback if a transaction fails.

36. Frolund discloses each node comprises means for performing a rollback if a transaction fails as in claim 13 above.

37. As to claim 22, Frolund discloses that the node rolls back according to the rollback method if the transaction fails (Fig. 3).

38. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward Bross whose telephone number is 305-8754. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2126

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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